CHAPTER 5

DISCUSSION OF FINDINGS

The study addressed the tasks and related IT competencies required of administrative support staff in networked organizations in Malaysia. The identification of required IT competencies provides baseline data on IT competencies required for persons wishing to embark on an office career and consequently provide relevant content for office education programs integrated with IT. The identification of IT competencies needed would strengthen the justification of providing upgrading courses in IT for employees already in the workplace.

The following section presents the summary for the research questions in this study and discusses the findings of the study in relation to other studies.

Demographic Profile of Respondents

The respondents in this study possess a Diploma with a job title of Secretary although there is a trend towards the usage of new job titles such as Executive Secretary, Executive Assistant, Communications Assistant, Confidential Assistant and Administrative Assistant. The job title of Stenographer appears to be confined to the government and educational sector with less than 10 percent in the Construction, Business and Professional Services and Transportation sectors. Studies in the United States, however, have found that the job titles of Administrative Assistant and Executive Assistant is increasingly being used while the job title of Secretary is being used less to identify administrative support

positions ("The 21st Century", n.d.; United States Department of Labor, 2001). The job title of Secretary is found to be more prevalent in the government sector (Hastings Taylor, n.d.)

The respondents are between the ages of 20 to 40 with 6 to 10 years or more related work experience and have been in their current position between 6 to 10 years. Respondents have used the computer in the workplace for more than 5 years but had no IT training in the past year. However, respondents have attended IT training once or twice in the past 5 years although they prefer IT training to occur once in 6 months. Although existing literature report that organization restructuring and technological changes are expected to increase responsibilities of administrative support staff, training is not provided to prepare them for their broadening role. A survey of *Executive PA* magazine readers found that 9 out of 10 readers revealed that the responsibilities of office professionals are set to rise. However, 89% of the 2,000 readers have not received training to help them carry out the new responsibilities (Anonymous, 2001).

Respondents prefer to learn IT via the classroom method facilitated by an instructor rather than learning via the corporate Intranet or the Internet. The fact that respondents prefer to learn IT skills through instructor-led training is supported by the training trends found in the 2002 ASTD International Comparisons Report. The countries surveyed reported the dominant form of training as instructor-led although there is a steady increase in the use of learning technologies for training ("International Training Trends", 2002).

Respondents acquired most of their IT skills on the job rather than through formal training, formal education or on their own. This finding is similar to other studies where respondents spend more time learning computer skills through on-the-job learning (Erickson, 1996; Moore & Johnson, 1999; Yow, 2000). A respondent emphasized the importance of on-the-job training in assisting employees develop IT competencies: "It is

recommended that every staff should be given on-the-job training frequently as IT is growing faster these days".

Task Performance of Competency Categories and Related IT Competencies

The results of this study reflect that the respondents perform all the 10 competency categories and the related IT competencies although the level of use differs across several demographic variables. The findings of task performance confirm the findings of other studies where the computer-based applications widely used in organizations are word processing, communications, database and spreadsheet (Solak, 1998; Sullivan, 1993; Ward, 1996). Recent studies found that in addition to the applications previously mentioned, other applications most commonly used in the workplace include presentation and the Internet (Albright, 2000; Raja Munirah R. Mustapha, 2002). The IT competencies reported as most frequently performed by administrative support staff employed in networked organizations are ranked accordingly:

1. Word processing
2. Communications
3. Basic computer maintenance, security and troubleshooting
4. Manage files and records
5. Perform financial functions
6. Manage activities and events
7. Internet research
8. Presentation
9. Desktop publishing
10. Develop Web page

The high usage of text processing technologies in the work of administrative support staff is evident when six IT competencies related to the "Word Processing" competency category are included in the 10 most frequently performed tasks. These IT

competencies are: "create documents", "use formatting features", "keyboarding technique", "proofread documents", "create forms" and "insert documents".

The "Communications" competency category is reported as the second most frequently performed task with four of its related IT competencies included in the 20 most frequently performed tasks: "send e-mail", "create e-mail messages", "organize e-mail" and "log on to a server".

This finding confirms the fact that administrative support staff who make up office workers must be able to type and use word processing software packages as well as communicate electronically with co-workers and clients (Fontana, 2000). According to Hastings Taylor (n.d.) who conducted a research on job competencies of administrative professionals in the west central Wisconsin area, many of the competencies traditionally assumed by administrative professionals are overwhelmingly still being performed. Hastings Taylor concluded that the job competencies of producing a vast array of documents and performing communication functions form a large part of the work of administrative professionals. A survey on the use of e-mail among 311 administrative professionals who are IAAP members found that over 95% of respondents indicated that their supervisors expected them to use e-mail for internal communications on a daily basis (Alexander, Bartlett & Truell, 2001).

Competencies in word processing and electronic communications, according to Lambrecht and Sheng (1998), are considered fundamental in the work of administrative support staff. In a study to determine the extent of use of word processing in businesses of Mid-South states, human resource managers reported that their businesses use word processing widely and the tasks included letters, memos, reports, envelopes and labels, tables, newsletters and e-mail (Gatlin et al., 1995).

The IT competency "use keyboarding technique" from the "Word Processing" competency category is ranked highly in the work of administrative support staff and very beneficial for job success. This finding is similar to prior studies by Batcha and Kunar (1998) and Wiggs et al. (1998). While Hemby's (1999) study found that keyboarding skill might not be related to computer anxiety, its presence is still needed to increase employee productivity. In a survey on business professionals who use the computer in the workplace, Wentling (1990) found that a majority of the respondents believed that keyboarding skills contributed significantly to their productivity. The introduction of a remedial training program in fundamental concepts of keyboarding to employee operators in Crocker Bank resulted in an average 40% increase in worker productivity among experienced workers (Anonymous, 1983). Nellermoe (1992) found that many personnel across departments are productively handicapped by the use of two fingers on each hand to operate a computer. Keyboarding is increasingly considered as a basic skill acquired through education in addition to literacy, numeracy and computer skills (Bynner, 1997). Middle-aged women and men who reenter the workforce sign up for keyboarding classes as they realize the importance of acquiring keyboarding skill in order to use computers (Benavides, 1999). It can be concluded that "Word processing", "Communications" and the related IT competencies are still necessary in programs for the development of administrative support staff.

Higher percentages of respondents performed IT competencies related to "Basic computer maintenance, security and troubleshooting". The mean scores for "perform basic maintenance", "protect PC against viruses", "customize desktop display settings", "use self-help resources to solve computer problems", "run operating system tools", and "use security features in PC" are between 2.89 – 3.36 indicating that these IT competencies are

sometimes performed in the job. The finding confirms that these IT competencies are end-user oriented and required of every person who works with a computer.

The third most frequently performed competency category is "Manage files and records" with two related IT competencies of "manage files" and "make backup copies of files" listed in the 10 most frequently performed task. Hastings Taylor's research (n.d.) supports this finding as Hastings Taylor found that in addition to the job functions of document production and communications, administrative professionals also perform the functions of organizing and planning, maintaining equipment and supplies, managing records and files, and distributing information.

The IT competency of "Train new staff on the use of related softwares" is reported as rarely performed by administrative support staff. However there is a growing trend of administrative support staff assuming the role of software trainer. The finding of this study confirms this point as 41% of the respondents (Mean = 2.18) reported that this task is sometimes performed in the job. This finding supports the finding by Alexander (1996a) who studied the secretary's new role as trainer and the implications for office educators. Alexander found that "over one-quarter of the secretaries surveyed are training co-workers to use computer software" (1996a, p. 23). Therefore, there is an obligation on the part of office educators to prepare students for their role as software trainers.

The mean scores for the competency category of "Perform financial functions" and the 5 related IT competencies are all above 2.50 indicating that these IT competencies are sometimes performed in the job. "Create spreadsheet" and "use formulae" achieved the highest means of 3.30 and 3.16 respectively or more than 70% of respondents. This finding indicates that the use of spreadsheet application is increasingly becoming a typical function of administrative support. Eurich (as cited in Ginsburg & Elmore, 1998) found that the software most often mentioned as crucial components of workers' technological skills

include word processing, spreadsheet and databases. However, the finding of this study contrasts Marino's (1993) finding where higher percentages of respondents reported no skills in the use of electronic calendaring, databases and spreadsheets.

The competency categories reported as rarely performed by respondents are "Presentation" and "Desktop publishing". Approximately 30% of administrative support staff reported frequent performance of "create slides" while more than half reported non-performance of "connect PC to projector" and "create multimedia show". It appears that administrative support staff do "create slides" but are limited to input of text while the task of formatting and planning for multimedia presentations is rarely performed. This finding agrees with the study by Lambrecht and Sheng (1998) that found administrative support staff rarely or never "create multimedia shows" and if they do perform this task it is limited to the input of short text. Lambrecht and Sheng also found that documents less likely to be part of word processing tasks are newsletter and advertising as these tasks require desktop publishing. The results of a study on identification and validation of information processing competencies needed by office workers (Solak, 1998) show that business personnel do not rate the competencies of desktop publishing and presentation graphics as important in the workplace. Business educators rate the same competencies low resulting in a low percentage of the competencies being taught. The low performance of presentation tasks using IT could be attributed to the absence of training provided on soft skills for presentations or that tasks related to presentation are not assigned to administrative support staff (Teo, 2001). Thus, administrative support staff do not see the need to use presentation software.

The last competency category of "Develop Web page" is reported as never performed by approximately 75% of respondents. This finding could be due to the limited function of administrative support staff in organizations that show a clear demarcation

between support and mid-managerial or managerial functions. A respondent has stated that administrative support staff are not expected to design, update Web pages or respond to inquiries through the Web sites:

> My company has its own IT Department, therefore, tasks like developing Web page, desktop publishing, computer maintenance and other[s] relating to Web sites are done by them. However, secretaries may at their own initiative do these tasks on their own.
>
> Only required to assisting executives in development of media presentations. Need the assistance of executives regarding content.

The limited function of administrative support staff is compounded by the fact that organizations set up their own IT departments to provide IT support, thus making unnecessary for administrative support staff to expand their functions to include IT support:

> In the organization that I work for each division will have their [own] IT officer/IT manager in charge of computer problems. Secretaries only go to courses on Basic IT/Multimedia.
>
> Few jobs with regards to IT is [are] handled by IT department. Accessibility of few things is controlled by IT department.

The review of literature suggests that the use of IT allows administrative support staff to expand their roles to include high level tasks, decision making and problem solving. The findings of this study, however, indicate that traditional responsibilities in text-handling technologies of "Word processing" and "Communications" continue to be performed by administrative support staff. Administrative support staff also perform tasks related to "Manage files and records" and "Perform basic maintenance, security and troubleshooting" because these technologies are needed when working with computer applications. The findings of this study are consistent with the findings of Goodrich (as cited in McEwen, 1996) and Raja Munirah R. Mustapha (2002) where the content of office support work in today's technological office environment had not changed dramatically from the traditional office except that technology is used to automate tasks.

At the same time, there is a trend where administrative support staff are beginning to carry out higher-level tasks and responsibilities beyond word processing. The findings suggest that there are increasing levels in the performance of high level tasks using complex or new technologies such as "Internet research", "Perform financial functions", "Monitor activities and events", "Presentation" and "Develop Web page". Although the performance level is low, respondents nevertheless reported some performance indicating that these high level tasks are performed but may not be recurring or are not typical of their positions. When given the opportunity, administrative support staff have the potential to integrate use of IT into additional job functions that go beyond their traditional job duties. A respondent pointed out this fact:

> The importance of IT enhances the person's capability in his work and more creative in managing his work provided that reasonable chances [are] given.

Task Importance of Competency Categories and Related IT Competencies

The findings show that the competency categories rated most important are ranked as follows:

1. Word processing
2. Communications
3. Basic computer maintenance, security and troubleshooting
4. Manage files and records
5. Perform financial functions
6. Manage activities and events
7. Internet research
8. Presentation
9. Desktop publishing
10. Develop Web page

The competency categories of "Word processing" and "Communications" are important in the work of administrative support staff. This is reflected in the fact that all the 7 IT competencies related to "Word processing" ("create documents", "use formatting

features", "advanced editing features", "create forms", "insert documents", "proofread documents" and "use keyboarding technique") are listed in the 20 most important IT competencies in the work of administrative support staff. The mean scores for the 7 IT competencies related to "Word processing" are all above 4.00 indicating that these IT competencies are important.

For the competency category of "Communications", respondents rated "create e-mail messages", "send e-mail", "organize e-mail addresses" and "log on to a server" as important IT competencies. The third most important competency category is "Basic computer maintenance, security and troubleshooting" where three related IT competencies of "perform basic maintenance", "protect PC against viruses", and "use security features in PC" achieved mean scores above 3.50.

The importance of word processing and communications competencies in businesses are shown in prior studies. In a study on word processing competencies required by businesses in mid-south states in the United States (Gatlin et al., 1995) selected human resource managers stated that the important and most needed skills in the use of word processing are a) basic formatting, b) speller/thesaurus, c) move/copy, d) file/disk maintenance, e) graphics and f) macros. Employers also require competencies in word processing and communications. In a study of required computer skills among industrial technology graduates (Mosley, 1999) both college professors and company respondents rated understanding word processing and e-mail as the top two computer skill requirements of graduates. An additional finding is that college professors rated the communication competencies of "sending and receiving e-mail" as extremely important.

For the competency category of "Manage files and records", the IT competencies that respondents reported as important are "manage files" and "make backup copies of files". All other competencies are rated as average importance while 4 IT competencies of

"online travel arrangement", "create newsletter", "create Web page" and "upload files to Web server" are rated as of little importance. An analysis of required computer competencies by alumni and employers (Johnson, Lester & Ferguson, 2001; Furst-Bowe & Boger, 1996) supports this study's findings that many jobs require competencies in word processing, spreadsheet, database management, graphics and information retrieval. An interesting point to note is that there is an increased need for presentation skills among prospective employees. Even though the findings of this study show that the competency category of Presentation is of little importance, the related literature show otherwise. The use of presentation software in organizations is established; therefore it is imperative that graduates of office education programs become proficient with presentation skills to assist them in the business world (Furst-Bowe & Boger, 1996; McCannon & Morse, 1997).

The rank order of competency categories according to importance is similar to the rank order of competency categories according to performance. A closer look at the mean plots and bar chart in Figure 5.18 confirms the finding that the respondents' ratings of task importance are higher than or parallel ratings of task performance:

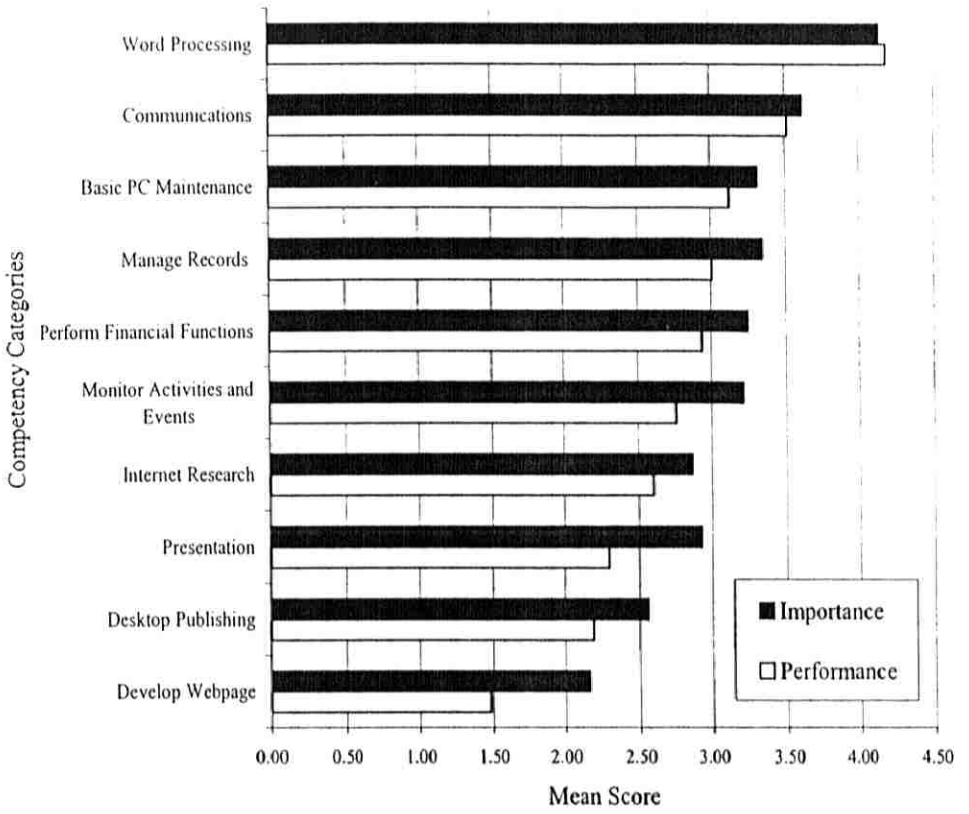

Figure 5.19 Comparison of Mean Score Task Performance and Mean Score Task Importance for the 10 Competency Categories

Figure 5.18 shows that administrative support staff rated task importance higher than ratings of task performance for 9 of the 10 competency categories. The IT competency of "Develop Web page" is a good example where the mean score for performance is 1.45 but the mean score for task importance is 2.16 or interpreted as little importance. The indication here is that respondents believe the tasks are of some importance even if the level of task performance is low or not performed at all. A similar finding is found in Bryant's study (1997) that identified tasks/competencies necessary for successful emergency management personnel. Bryant found that respondents rated the frequency level of tasks/competencies lower than the levels of importance. Bryant concluded that a task/competency with a low frequency of use level does not indicate that

the task/competency is unimportant. This finding reaffirms the fact that the 10 competency categories must be included in a program for the development of administrative support staff.

Self-Rated Task Ability of Competency Categories and Related IT Competencies

The following competency categories are ranked according to level of competency as reported by respondents:

1. Word processing
2. Communications
3. Basic computer maintenance, security and troubleshooting
4. Perform financial functions
5. Manage files and records
6. Manage activities and events
7. Internet research
8. Presentation
9. Desktop publishing
10. Develop Web page

Respondents reported their competency as Proficient for the competency categories of "Word processing" and "Communications" while the respondents rated their competency as Acceptable for the competency categories of "Basic computer maintenance, security and troubleshooting", "Perform financial functions", "Manage files and records", "Manage activities and events", "Internet research" and "Presentation". However, respondents rated their competency as Marginal for the two competency categories of "Desktop publishing" and "Develop Web page". This finding reaffirms prior studies on the relationship between skill level of IT and job characteristics of administrative support staff where larger percentages of respondents reported higher skill levels in the use of text handling technologies and the communication technology of facsimile (Marino, 1993; Raja Munirah R. Mustapha, 2002).

When each IT competency was analyzed, it was found that respondents were Proficient in 6 of the 7 IT competencies related to "Word processing". The 6 IT related competencies are "create documents", "use formatting features", "create forms", "insert documents", "proofread documents" and "use keyboarding technique". Respondents also indicated that they were Proficient in the IT competencies of "manage files" and "make backup copies of files". Respondents rated all other IT competencies as Acceptable. However, respondents rated their ability as Marginal in 7 IT competencies: "connect PC to projector", "create multimedia show", "create database", "online travel arrangement", "create newsletter", "create Web page" and "upload files to Web server". These findings suggest that respondents rated their ability highest in tasks and IT competencies that are traditionally related to the function of administrative support such as "Word processing", "Communications", "Manage files and records", "Manage activities and events" and "Perform financial functions". The level of competency is Acceptable for IT competencies that are required of end-users such as "Basic computer maintenance, security and troubleshooting". These are IT competencies necessary in the work of administrative support staff and since these competencies and the related technologies have been part of their job functions for some time, respondents are likely to become more competent. Tasks and IT competencies that are not typical functions of administrative support staff tend to be rated lower in terms of task ability. Respondents rated their ability in IT competencies concerned with "Presentation" such as "connect PC to a projector" and "create multimedia show" as Marginal.

When IT competencies are more abstract and concerns developing, analyzing, maintaining and evaluating which may be typical of managerial positions, respondents rated their competencies lower. This can be seen in the IT competencies of "create database", "create newsletter", "create Web page" and "upload files to Web server" which

concerns developing content, analyzing, maintaining and evaluating a system; therefore these competencies were rated as Marginal. An assumption to be made here is that these IT competencies may not likely be typical duties of administrative support staff and, at the same time, these competencies are associated with newer technologies that may not have been available for a longer period of time. Another important point to note is that the functions of administrative support staff are limited due to the presence of narrow stereotypical views about their work and the type of training relevant to them. A respondent explained that access to higher level tasks depends not only on the secretary's position in the organization but also the employer's attitude towards the secretarial function:

> My company has its own IT Dept, therefore, tasks like developing Web page, desktop publishing, computer maintenance and others relating to Web sites are done by them. However, secretaries may at their own initiative do these tasks on their own.

The findings also point to the existence of a clear demarcation of administrative support functions from mid-managerial or managerial; thus tasks of administrative support staff remain traditional:

> My job scope does not require me to liaise with database, generate reports and systems. We do not have direct Internet access to gauge related information from [the] Web. Therefore, our computer skills in work environment is [are] very limited to word processing and charts.

> In an organization where an IS (Information Systems) Manager basically handles any flaws in server-based IT ware, the end-user is often left the task of 'user only'. Most graphic work is handled by a graphics designer.

The findings therefore suggest that the ability of respondents increases when the technology is consistently used in performing the job functions. The ability of respondents, however, decreases as the technology becomes more complex or when the technology is new. This assumption confirms the finding by Hirschhorn and Mokray (cited in Boreham & Samurçay, 1999) that the interaction between the skills required by the new technological development and the workers' roles within the organization can lead to

employee competence. Hirschhorn and Mokray commented that an individual may be highly skilled but if the role gives no authority to use the skill then the individual will feel less competent. It can be postulated that technology that is increasingly used can lead to employee competence. However, the findings suggest that administrative support staff be equipped with critical skills that can prepare them for higher level tasks that require the use of complex and newer technologies. At the same time programs for the development of administrative support staff must emphasize not only the basic operations of computer applications but also the advanced operations that enhances performance of high-level tasks.

IT Competencies that Require Additional Training

One of the objectives of this study is to determine areas in IT where additional training is needed for administrative support staff to become competent. The needed IT competencies were identified through the use of weighted discrepancy scores (WDS). The WDS for each IT competency was calculated by obtaining the difference between task importance and task ability divided by the mean score task importance. Weighted discrepancy scores above 0 indicate that there is a discrepancy gap and some form of training is required.

The overall mean WDS for the competency categories show that "Word processing" has the highest discrepancy gap. On analysis of individual IT competencies it was found that the IT competency of "create documents" had the highest WDS despite the fact that respondents reported their ability in performing this task as Proficient. It can be assumed that the task of "create documents" using word processing is a recurring task that requires competency from administrative support staff. However, the WDS for this IT

competency ranged from a minimum of –1.32 and a maximum of 3.54 (SD = 3.62), indicating that the ability of respondents varied considerably. The wide range in the discrepancy gap could be related to findings of significant differences in ratings of task ability according to several demographic variables. This assumption is based on a study by Sullivan (1993) who found that although 97% of workers are required to "create documents" using word processing, only 69% felt competent; thus it can be assumed that although end-user skills in word processing is important the level of competency required to carry out "create documents" appear to be at the basic level. The wide range in discrepancy score may be attributed to the fact that the level of IT usage is associated with the tasks that administrative support staff perform with the use of technology. The level of IT usage could be highest for administrative support staff in one organization while limited in another. Administrative support staff who assume multi-various roles may report high levels of IT usage while respondents who assume limited functions make contrasting reports:

> [My] Job scope covers job specs as administrator, trainer, recruiter, office manager, financial consultant, insurance agent and marketing executive.

> [The] Nature of work in Internal Audit Division is related more to typing of confidential internal audit reports which requires proper typing skills & presentation.

Another assumption to be made here is that there are complications towards users using the capabilities of the software to their fullest. Firstly, office workers are unable to learn all the features of the softwares; they instead use enough features to complete the most immediate work. Secondly, office workers commonly use multiple computer systems. As a result, administrative support staff use software features that are limited to the type of work performed:

> My job at present doesn't really require me at times to use Microsoft Word, Excel & PowerPoint on a higher level. I often use these programs on a more moderate level. However, want to know how to use programs at advanced level.
>
> Although I have learned several IT application softwares during my working years still I do not have the opportunity to fully apply the application I have learned.

However, "create documents" is a crucial function of administrative support staff because competency in this area can possibly facilitate the learning of other similar software applications. This assumption can be made as the cognitive associative process of learning referred to by Gick and Holyoak (cited in Agarwal & Prasad, 1999) stated that prior experiences in similar technologies result in greater learning and may lead to more positive beliefs towards use of technology than dissimilar prior experiences.

The IT competencies reported as requiring additional training are associated with newer technologies or performance of higher-level tasks that involve analyzing and developing. These IT competencies are "create multimedia shows", "create Web page", "access Web sites", "protect PC from viruses", "connect PC to projector", "upload to Web server", "use self-help resources to solve computer problems", "create database", "run operating system tools", "use PC security features" and "proofread documents (spell & grammar check). Only one IT competency ("customize desktop display setting") reported a MWDS below 0 indicating that this IT competency is not important. This finding could mean that respondents are either competent to perform the competency or perceive this competency as not important and see no need for additional training.

Several IT competencies that were perceived as important in the work of administrative support staff such as "create e-mail", "send e-mail", "organize e-mail addresses", "keyboarding", "make backup copies of files", "manage files and records", "basic maintenance" were however not selected as most needed for training. The

assumption here is that these IT competencies are important and frequently performed that respondents have become competent and need no further training. On the other hand, IT competencies that were rarely performed such as "create multimedia shows", "create Web page", "upload to Web server", "connect PC to projector", "create database", "produce report from database" and "create newsletter" are reported as the top 20 IT competencies selected most for training.

The variance in discrepancy scores among respondents may be attributed to the fact that individual difference variables of demographics, personality, cognitive traits, motivational traits and previous experience that goes beyond the scope of this study may affect the learning process and, ultimately, acceptance and use of technology (Agarwal & Prasad, 1999).

Significant Differences in Mean Score Task Performance across Demographic/ Situational Variables

The one way analysis of variance and multiple comparison LSD test show significant differences in mean score task performance according to level of education for the competency categories of "Word processing", "Communications", "Presentation", "Manage files and records", "Perform financial functions", "Internet research", "Basic computer maintenance, security and troubleshooting" and "Desktop publishing". The findings of significant difference suggest that the form of education received by the respondents is relevant to the use of IT in the workplace. Respondents with a higher level of education rated their task performance in the use of IT significantly higher. In a study of training techniques and personal characteristics of end users, Davis and Davis (1990) found a relationship between level of education and performance in a training environment. The

level of education is indicative of a potential adopter's ability to learn and therefore positively associated with performance. Agarwal and Prasad (1999) confirmed that an individual's belief plays a mediating role in the relationship between individual differences and acceptance of new technologies.

When task performance is compared across job title of respondents findings of significant difference suggests that job titles come with specific roles and responsibilities. New job titles such as Administrative Assistant, Executive Secretary, and Executive Assistant report higher ratings of task performance while the traditional job title of Stenographer report lower ratings of task performance using IT. Significant differences were found between the new job titles of Administrative Assistant and Executive Assistant and mean task performance for the competency categories of "Perform financial functions" and "Develop Web page". A similar finding occurred in Marino's (1993) study where respondents with the titles of administrative assistant and administrative secretary reported substantially higher skill levels in the use of these data technologies than secretaries and stenographers. The significant difference in mean score task performance among new job titles may possibly be attributed to the position of the new job titles in the organization hierarchy. It may be that as administrative support staff move up the organizational hierarchy they need to focus on their relationship with the whole organization and the external environment rather than a unit or department, thus different roles, tasks and skills become important. The significant difference in task performance between respondents with the job title of Stenographer and other job titles could be due to the fact that employment of stenographers in this study are concentrated in the government and education sectors. The government and education entities are primarily large and jobs in larger offices tend to be more routine, highly specialized and related to large data sources while jobs in smaller offices require a wider range of skills and knowledge (de Wolff,

2000). A respondent reported the differing roles and responsibilities due to the nature of work and organization:

> It is an undisputed fact that computer knowledge is essential in our current modern IT world. However, in an organization the computer skills of a secretary is limited depending on the nature of the job as well as the person he/she reports to.

Prior studies suggest that older workers and those with longer work experience tend to resist new technologies. A study on new production technologies (Majchrzak & Cotton, 1988) found that workers with less experience were more committed to changes brought by new technology. If work experience can be a substitute for age then there is strong evidence to show that there is a negative relationship between age and acceptance of technological change. The findings of this study identified significant differences between the age group of administrative support staff and task performance for all competency categories except "Monitor activities and events" and "Develop Web page". Higher ratings of task performance are reported among respondents in the younger age group of 20 – 30 and 31 – 40. There appears to be a downward trend in the mean score task performance of respondents who are 51 years or more for all competency categories. The findings indicate that younger respondents are more comfortable with the use of computers in the workplace. A prior study by Harrison and Rainer (1992) on the influence of individual differences on end-user computing skills found that personal characteristics of respondents accounted for 56% of the variation in computer skill. Harrison and Rainer found a significant negative relationship between age and computer skill. Another study on the relationship of age to attitude in the use of ICT for global planning (Necessary & Parish, 1996) supports the finding that younger users were more inclined to computers. However, Alexander et al. (2001) found that when it concerns productive usage of e-mail, respondents who are 40

years and above use e-mail significantly more productively than respondents 39 years or younger.

Meaningful differences were found between respondents years in current position and mean score task performance for all competency categories except "Monitor activities and events", "Internet research", "Basic computer maintenance, security and troubleshooting" and "Develop Web page". Respondents with 1 – 5 years in current position performed significantly higher than respondents with more than 10 years for all competency categories. An interesting point to note is that respondents with less than 1 year in current position rated their mean task performance higher for the competency categories of "Perform financial functions" and "Develop Web page" but rated their performance significantly lower for "Word processing". It can be assumed here that increases in years in current position correspond with age increases. Therefore it is logical to assume that respondents with 1 – 5 years in current position or younger in age rate their task performance in IT significantly different than respondents with more than 10 years in current position.

Similar meaningful differences were found in the mean score task performance according to related work experience of respondents for all competency categories except "Word processing", "Monitor activities and events", "Internet research" and "Develop Web page". The mean score task performance of respondents with 1 – 5 years related work experience was significantly higher than respondents with more than 10 years' related work experience. Respondents with less than 1 year of related work experience performed significantly higher in the competency categories of "Perform financial functions". It is logically correct to assume that increasing related work experience corresponds with increasing age. If related work experience can be a proxy for age, then there is evidence to support the assumption of a negative relationship between related work experience and

acceptance of technologies. This finding supports findings of prior studies that suggest older workers and those with longer work experience tend to resist new technologies (Harrison & Rainer, 1992; Majchrzak & Cotton, 1988).

The findings of significant differences in task performance according to age, years in current position and related work experience strengthen the fact that employees be encouraged to pursue lifelong learning in order to survive in an ever-changing workplace.

Significant Differences in Mean Score Task Importance across Demographic/ Situational Variables

The means, standard deviations, analysis of variance and post hoc tests were calculated for the mean score task importance of competency categories across the demographic and situational variables of education level, job title, age group, years in current position, related work experience, years of computer use, IT training attended in the past 5 years, preference for IT training, method of learning IT and method of acquiring IT competency.

When the mean score task importance was compared across respondents education level, job title, years in current position, years of related work experience and years of computer use significant differences were found for a few competency categories. The low findings of significant difference in mean score task importance suggests that perceptions of task importance for the competency categories do not vary considerably among respondents.

When the mean score task importance was compared across the situational variables of IT training attended in the past 5 years, preference for IT training, method of learning IT and method of acquiring IT no significant differences were found for the 10 competency categories.

A striking difference, however, was found in the mean score task importance according to age group of respondents. Again, the results show that respondents in the younger age group perceived the level of task importance significantly higher than other respondents for 8 competency categories of "Word processing", "Communications", "Presentation", "Manage files and records", "Perform financial functions", "Internet research", "Basic computer maintenance, security and troubleshooting" and "Desktop publishing". The findings point to fact that there is a complete division of the 20-something Generation X-ers from the 40-something lifers (Finkelstein, 2000). Finkelstein (2000, p. 10) explains that the Generation X-ers are motivated to work and are technologically empowered while, "The 40-something generation is working 60-hour weeks, juggling career, marriage, mortgage, middle age and the looking specter of retirement with no savings". This finding suggests that alternative methods of motivating employees have to be introduced. Finkelstein recommends providing appropriate rewards as one way of motivating employees to perform. In addition, employees need to be provided with information, learning and training together with a clear vision of goals in order to perform at the optimal level.

Significant Differences in Mean Score Task Ability across Demographic/ Situational Variables

When the mean score task ability was compared across the demographic and situational variables striking differences were found for several variables. The most striking difference was found for the mean score task ability according to respondents' age group and years in current position. All the competency categories were found to be significantly different in terms of ratings of task ability. Respondents in the younger age group not only rated task performance and perception of task importance higher than others

but also rated their ability or competency significantly higher than older respondents. An assumption to be made here is that the older the individual, the higher the level of anxiety. This finding parallels the study by Osrowski, Gardner and Motawi (as cited in Orr et al., 2001) where even experienced computer users in the workplace report symptoms of computer anxiety when dealing with learning new computer applications. This confirms that computer training and experience that workers receive in schools or colleges is inadequate to meet the demands of newer technologies, thus requiring older employees to pursue continuous training. The findings of significant difference in self-rated task ability according to age group substantiates the findings of other studies that age correlates negatively with computer skills (Harrison & Rainer, 1992; Nickell & Pinto, 1986; Necessary & Parish, 1996; Simmers & Anandarajan, 2001; Teo, 2001).

The situational variable of years in current position was another factor that showed significant differences on self-ratings of task ability for all the competency categories. Respondents who have been in their current positions for 1 to 5 years rated their task ability significantly higher than respondents with longer tenure in their current position. Harrison and Rainer (1992) who analyzed the influence of individual differences on end-user computing skills found that respondents with more experience with computers show a positive relationship with computer skills. If years in current position can be a surrogate for experience with computers then there is evidence to suggest a positive relationship between years in current position and IT competency.

Significant differences in self-ratings of task ability were also found across respondents' level of education, job title, years of computer, work experience and IT training attended in the past 5 years. Respondents who obtained education beyond SPM/MCE reported significantly higher ratings of task ability. This finding supports the findings of a research by Johnson et al. (2001) who studied the relationship between

selected computer experiences, computer self-efficacy and computer knowledge of students entering an agriculture college. Johnson et al. found a significant, positive and stable correlation between high school grades and computer self-efficacy. Students who obtained good high school grades and expected to perform well in college possessed computer self-efficacy. The theory of efficacy, put forward by Bandura (1982), suggests that individuals with high levels of efficacy (confidence) are more likely to engage in computer tasks and persist despite difficulties. A study by Harrison and Rainer (1992) however found that the relationship between education level and computer skill was not significant. The less than significant finding for the relationship between education and computer skill in their study could be attributed to the sample that comprised faculty, administrative, technical and clerical staff of a university. However, the researchers implied that education be used as a criteria in the selection of staff. Other studies however show significant positive relationships between education and computer skill (Agarwal & Prasad, 1999; Decker, 2002).

Relationship between Perceptions of Task Importance and Task Performance

The purpose of testing the relationship between perceptions of task importance and task performance is to identify the competencies that need to be included in programs for the development of administrative support staff. Making decisions on program content based on the frequency of task performance alone would not suffice because certain tasks may not be performed but may be indirectly concerned with the administrative support function. The significant difference between frequency of task performance and perceptions of task importance, according to Giles, La Valle and Perryman (1996), shows that even though tasks are not frequently performed, it does not indicate less importance.

Respondents believe that these tasks are important for increasing productivity and if they were given the opportunity to perform those tasks, it would help them grow in their careers (Giles et al., 1996). Therefore, the identification of task performance together with perceptions of task importance depict a clearer perspective of IT competencies that contribute to successful performance in the work of administrative support staff.

The findings indicate that there are significant positive relationships between the level of task performance and perceptions of task importance for all competency categories. The perceived importance for the 10 competency categories ("Word processing", "Communications", "Manage files and records", "Monitor activities and events", "Perform financial functions", "Internet research", "Basic computer maintenance, security and troubleshooting", "Desktop publishing", "Presentation" and "Develop Web page") is positively correlated with performance. In other words the importance of a task is related to task performance. The little to low positive correlation between task importance and task performance for the competency categories of "Presentation" and "Develop Web page" means that these tasks are rarely performed but does not indicate less importance in the work of administrative support staff. This finding is supported by other studies that show the increasing importance of presentation and Web page authoring in the work of administrative support staff (de Wolf, 2000; Faloon, 2000). The findings strengthen the case that all the tasks and related IT competencies generated from this study must be included in a program for office management:

> It is indeed essential for every employee to embark on training and development and the tasks stated earlier in the questionnaire are critical for administration in order to enhance working performance and productivity.
>
> Some skills may not be very important in daily routine for secretary but it will be an advantage to have it in order to meet job requirements at least.

The impact of e-business does not only affect the technology used in business but a greater impact is seen in the reorganization of administrative work processes. Therefore, the role of support staff in the reorganization of administrative work processes requires them to be equipped with complex skills to handle changes in the tools as well as the work processes.